

## PATENT ABSTRACTS OF JAPAN

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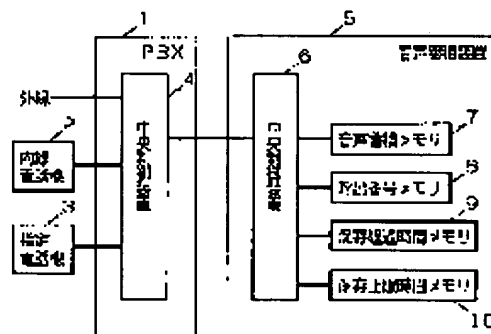
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## (54) VOICE STORAGE DEVICE

## (57)Abstract:

PROBLEM TO BE SOLVED: To always enable recording a new message by allowing the device to reproduce automatically stored message to the processor to urge deletion of an undesired message for the processor through hearing and to automatically manage an idle capacity of the voice storage memory thereby effectively utilizing the memory capacity.

SOLUTION: A central processor 6b stores a storage lapse time as to message stores in a voice storage memory 7 into a storage lapse time memory 9. The central processor 6 compares the value of the storage lapse time memory 9 with a value of a storage upper limit time memory 10 set in advance, retrieves message whose time exceeds the value of the storage upper limit time memory 10. When a corresponding message is in existence, the central processor 6 extracts a call number of a designated telephone set 3 in advance in a mail box, to which the concerned message in the storage lapse time memory 9 belongs from a call number memory 8, makes dialing to the designated telephone set 3, where the message is reproduced. The central processor 6 again stores the message or deletes it, according to the selection of the storage or deletion of the message by the operator.



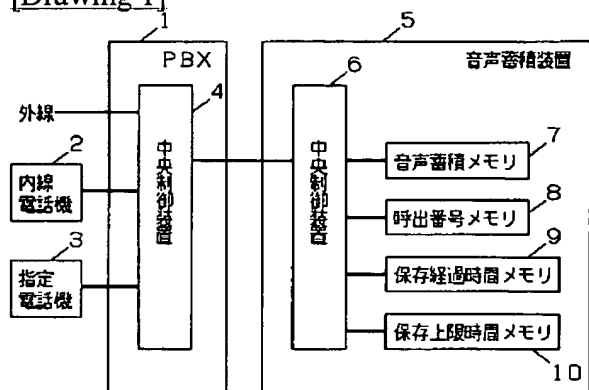
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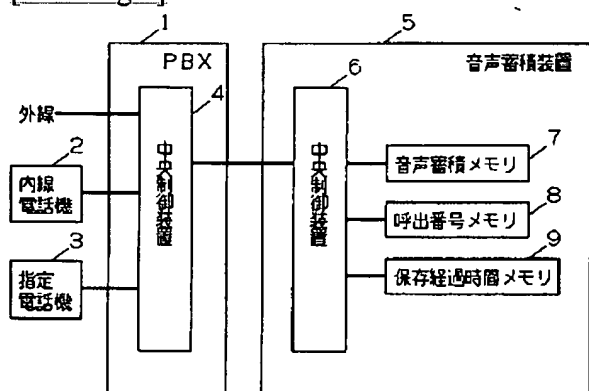
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## DRAWINGS

[Drawing 1]



[Drawing 2]



[Translation done.]

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] The block diagram showing the voice storage equipment by the gestalt of operation of the 1st of this invention

[Drawing 2] The block diagram showing the voice storage equipment by the gestalt of operation of the 2nd of this invention

[Description of Notations]

1 PBX

2 Extension

3 Specification Telephone

4 Central Control Unit of PBX

5 Voice Storage Equipment

6 Central Control Unit of Voice Storage Equipment

7 Voice Storage Memory

8 Memory Which Stores Call Number of Specification Telephone corresponding to Mail Box

9 Memory Which Memorizes Elapsed Time after Message is Saved

10 Memory Which Memorizes Time of Upper Limit Which Saves Message

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] It connects with PBX and a key telephone system machine, and this invention relates to the voice storage equipment used in order to tell correctly against a message by transmitting the content which recorded, accumulated and recorded voice as a substitute of a memorandum.

[0002]

[Description of the Prior Art] It follows on the recorded message being saved in voice storage memory, and the availability of voice storage memory which saves the message decreases. Then, the availability of voice storage memory was lost, in the former, in order to prevent that it becomes impossible to newly accumulate voice more than this, the operator investigated the mail box currently used and eliminated the unnecessary message, or the maintenance man of voice storage equipment investigated the availability of voice storage memory periodically, and made the message which became unnecessary eliminate, and operation of always securing an availability was performed. Moreover, in order to simplify a maintenance man's work, after being saved, the method of eliminating automatically the message which passed fixed time is also adopted.

[0003]

[Problem(s) to be Solved by the Invention] however, even when a message is recorded and voice storage memory has filled with the above Prior arts, in order to always secure the availability of voice storage memory and to enable it to record a new message, you have to consider a deployment of voice storage memory by if possible lessening the message which an operator performs listening comprehension operation of a message, and eliminates an unnecessary message, or is saved -- it accumulates and time and effort is required Moreover, when a maintenance man managed, the availability of voice storage memory had to be inspected periodically and the big burden had started the maintenance man. Moreover, there was a problem of also eliminating a message saving and leaving the message which passed fixed time by the method eliminated automatically.

[0004] It is urging elimination of the message which this invention's solves the above conventional problems, prepared the opportunity to send [ opportunity ] a message automatically and make an owner judge the need for preservation of a message, and became unnecessary. Without applying a burden to an operator or a maintenance man, a voice storage means is utilized effectively and it aims at offering the voice storage equipment which enabled it to always secure the availability for recording a new message.

[0005]

[Means for Solving the Problem] In order to attain the above-mentioned purpose, after control means accumulate this invention for a voice storage means, When send automatically the message which carried out fixed time progress, and an owner is made to hear it or control means of the availability of a voice storage means become less than a fixed rate By sending some messages saved automatically and making an owner hear it, an owner is made to judge the need for preservation of a message, and it constitutes so that control means may eliminate the message which became unnecessary.

[0006] The voice storage equipment which enabled it to always secure the availability for this recording a new message is obtained.

[0007]

[Embodiments of the Invention] In voice storage equipment equipped with a means for invention of this invention according to claim 1 to record the voice from telephone through PBX, and to accumulate to a mail box as a message A means to memorize the elapsed time after a message is saved at a mail box, A means to memorize the time of the upper limit which saves a message, and a means to memorize the call number of the telephone which the mail box was made to correspond and was specified, The value of the above-mentioned preservation elapsed time storage means is compared with the value of the above-mentioned preservation upper limit time storage means. Search the message which exceeded the time of the upper limit which saves a message, take out the call number of the telephone which a mail box is made to correspond and is specified from the above-mentioned call-number storage means, and a call is notified automatically. Preservation of the message reproduce and send out the message which exceeded preservation upper limit time, and according to an operator, Or it has the control means which perform re-preservation of a message, or elimination with selection of elimination. The owner of a mail box hears the message which is sent automatically and which became old. It can have an opportunity to save or eliminate the message anew, and it has operation that the availability of a voice storage means is securable, without being eliminated before a message to save knows.

[0008] In voice storage equipment equipped with a means for invention according to claim 2 to record the voice from telephone through PBX, and to accumulate to a mail box as a message A means to memorize the elapsed time after a message is saved at a mail box, A means to memorize the call number of the telephone which the mail box was made to correspond and was specified, A message with the longest elapsed time when the availability of the above-mentioned voice storage means becomes less than a fixed rate, after being saved is searched. Take out the call number of the telephone which a mail box is made to correspond and is specified from the above-mentioned call-number storage means, and a call is notified automatically. Preservation of the message reproduce and send out the long message of preservation elapsed time, and according to an operator, Or when it has the control means which perform re-preservation of a message, or elimination with selection of elimination and the availability of memory becomes less than a fixed rate By urging elimination of the message which became unnecessary by making an owner hear the message saved automatically from the older one The owner of a message can have an opportunity to save or eliminate, and it has operation that the availability of a voice storage means is securable, without being eliminated before a message to save knows.

[0009] Hereafter, it explains, referring to a drawing about the form of operation of this invention. First, the form of operation of the 1st of this invention is explained. Drawing 1 is the block diagram showing the voice storage equipment by the form of operation of the 1st of this invention.

[0010] As shown in drawing 1, voice storage equipment 5 and an interface are possible for PBX1, it has the central control unit 4 which controls the whole PBX, and is connected with outside line, the extension 2, and the specification telephone 3.

[0011] PBX1 and an interface are possible for voice storage equipment 5, and it has the central control unit 6 which controls the whole voice storage equipment, the voice storage memory 7, the call-number memory 8 which stores the call number of the specification telephone 3 corresponding to a mail box, the preservation elapsed time memory 9 which stores the elapsed time after a message is saved, and the preservation upper limit time memory 10 which memorizes the time of the upper limit which saves a message.

[0012] In the above composition, the operation is explained hereafter. As soon as the extension 2 connected to PBX1 telephones to outside line, the central control unit 4 of PBX1 requires the recording of the telephone call from voice storage equipment 5. The central control unit 6 of voice storage equipment 5 notifies a recording start to PBX1, and starts telephone call recording.

[0013] If the operator of the extension 2 specifies the number of the mail box which accumulates telephone call recording, the central control unit 4 of PBX1 will notify the number of the specified mail box to the central control unit 6 of voice storage equipment 5. The central control unit 6 of voice storage

equipment 5 to which the number of a mail box was notified accumulates speech information to the voice storage memory 7 of the corresponding mail box.

[0014] After the telephone call with the extension 2 and outside line is completed, the central control unit 4 of PBX1 requires the end of the telephone call from voice storage equipment 5. The central control unit 6 of voice storage equipment 5 ends telephone call recording, and accumulates speech information as a message.

[0015] If the owner of the accumulated message catches the message and operates preservation, \*\*\*\*\* 6 of voice storage equipment 5 will set the reserve-time progress memory 9 corresponding to the recorded message to "0", and will start management of the time which has passed after beginning preservation. The central control unit 6 of voice storage equipment 5 manages time per one day, and whenever it will pass on the 1st, it adds "1" to the value of the preservation elapsed time memory 9 to which all the messages saved in the voice storage memory 7 correspond.

[0016] At this time, the central control unit 6 of voice storage equipment 5 compares the value of the preservation elapsed time memory 9 with the value of the preservation upper limit time memory 10 set up beforehand, and searches the preservation elapsed time memory 9 which exceeded the value of the preservation upper limit time memory 10. Here, when there is preservation elapsed time memory 9 which corresponded by this reference, in order that the central control unit 6 of voice storage equipment 5 may take out the call number of the specification telephone 3 beforehand set up to the mail box with which the message corresponding to the preservation elapsed time memory 9 belongs from the call-number memory 8 and may send to the specification telephone 3, it notifies the taken-out call number to the central control unit 4 of PBX1.

[0017] The central control unit 4 of PBX1 will connect the telephone call with voice storage equipment 5, if dispatch to the specification telephone 3 is performed and a partner answers. The central control unit 6 of voice storage equipment 5 tells a partner operator that there is a message which exceeded preservation upper limit time, and reproduces and sends out the message which exceeded preservation upper limit time.

[0018] It chooses whether a partner operator saves anew by hearing a description, or it eliminates. Here, when preservation is chosen, the central control unit 6 of voice storage equipment 5 manages elapsed time after setting the value of the preservation elapsed time memory 9 corresponding to the message concerned to "0" and saving it again. On the other hand, when elimination is chosen, the central control unit 6 of voice storage equipment 4 eliminates the message concerned from the voice storage memory 7.

[0019] Thus, according to the voice storage equipment 5 of the form of this operation, it is saved and becomes old. Since elimination of an unnecessary message can be urged after preparing the opportunity to be able to make an owner hear it again after a message with few opportunities heard also carries out fixed time progress, and to save or eliminate it anew It becomes possible to leave only a required message automatically and to secure the availability of the voice storage memory 7.

[0020] Next, the form of operation of the 2nd of this invention is explained. Drawing 2 is the block diagram showing the voice storage equipment by the form of operation of the 2nd of this invention.

[0021] As shown in drawing 2, voice storage equipment 5 and an interface are possible for PBX1, it has the central control unit 4 which controls the whole PBX, and is connected with outside line, the extension 2, and the specification telephone 3.

[0022] PBX1 and an interface are possible for voice storage equipment 5, and it has the central control unit 6 which controls the whole voice storage equipment, the voice storage memory 7, the call-number memory 8 which stores the call number of the specification telephone 3 corresponding to a mail box, and the preservation elapsed time memory 9 which memorizes the elapsed time after a message is saved.

[0023] In the above composition, the operation is explained hereafter. As soon as the extension 2 connected to PBX1 telephones to outside line, the central control unit 4 of PBX1 requires the recording of the telephone call from voice storage equipment 5. The central control unit 6 of voice storage equipment 5 notifies a recording start to PBX1, and starts telephone call recording.

[0024] If the operator of the extension 2 specifies the number of the mail box which accumulates telephone call recording, the central control unit 4 of PBX1 will notify the number of the specified mail box to the central control unit 6 of voice storage equipment 5. The central control unit 6 of voice storage equipment 5 to which the number of a mail box was notified accumulates speech information to the voice storage memory 7 of the corresponding mail box.

[0025] After the telephone call with the extension 2 and outside line is completed, the central control unit 4 of PBX1 requires the end of the telephone call from voice storage equipment 5. The central control unit 6 of voice storage equipment 5 ends telephone call recording, and accumulates speech information as a message.

[0026] If the owner of the accumulated message catches the message and operates preservation, \*\*\*\*\* 6 of voice storage equipment 5 will set the reserve-time progress memory 9 corresponding to the recorded message to "0", and will start management of the time which has passed after beginning preservation. The central control unit 6 of voice storage equipment 5 manages time per one day, and whenever it will pass on the 1st, it adds "1" to the value of the preservation elapsed time memory 9 to which all the messages saved in the voice storage memory 7 correspond.

[0027] At this time, the central control unit 6 of voice storage equipment 5 checks the availability of the voice storage memory 7 periodically, and when fewer than a fixed rate with an availability, with reference to the preservation elapsed time memory 9, the oldest message for demanding elimination from an owner is chosen. Moreover, in order to take out the call number of the specification telephone 3 beforehand set up to the mail box with which the selected message belongs from the call-number memory 8 and to send to the specification telephone 3, the taken-out call number is notified to the central control unit 4 of PBX1.

[0028] The central control unit 4 of PBX1 will connect the telephone call with voice storage equipment 5, if dispatch to the specification telephone 3 is performed and a partner answers. The central control unit 6 of voice storage equipment 5 tells a partner operator that there is a message which was saved and became old, and reproduces and sends out the selected message.

[0029] It chooses whether a partner operator saves anew by hearing a description, or it eliminates. Here, when preservation is chosen, the central control unit 6 of voice storage equipment 5 manages elapsed time after setting the value of the preservation elapsed time memory 9 corresponding to the message concerned to "0" and saving it again. On the other hand, when elimination is chosen, the central control unit 6 of voice storage equipment 4 eliminates the message concerned from the voice storage memory 7.

[0030] The central control unit 6 of voice storage equipment 5 repeats the work to which elimination of the same message as the above is urged until it becomes larger than a fixed rate with the availability of the voice storage memory 7.

[0031] thus, even when the voice storage memory 7 has filled according to the voice storage equipment 5 of the form of this operation By urging elimination of the message which became unnecessary by making an owner hear the message saved automatically from the older one The owner of a message can wait for an opportunity to save or eliminate, and the availability of voice storage memory can be secured, without being eliminated before a message to save knows.

[0032]

[Effect of the Invention] After being saved and the message whose opportunity heard by becoming old decreased according to this invention also passes fixed time, auto-send it, an owner is made to hear it again, as explained above, and elimination can be urged after preparing the opportunity to save or eliminate anew. Therefore, when there is a message which already becomes unnecessary, and remains still saved, an owner becomes possible [ eliminating ] using the opportunity which was able to hear the message. By this, the availability of a voice storage means can be secured, and the situation of recording and spoiling a new message can be avoided, and arrangement and management of a mail box owner's message can be supported.

[0033] Moreover, even when the availability of a voice storage means has decreased, resources called a voice storage means can be effectively used by urging him to eliminate an unnecessary message

automatically, and while the situation of failing to record a new message is avoidable, the troublesomeness of the management business of the voice storage means which the owner and maintenance man of a message were performing can be excluded conventionally.

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[Translation done.]